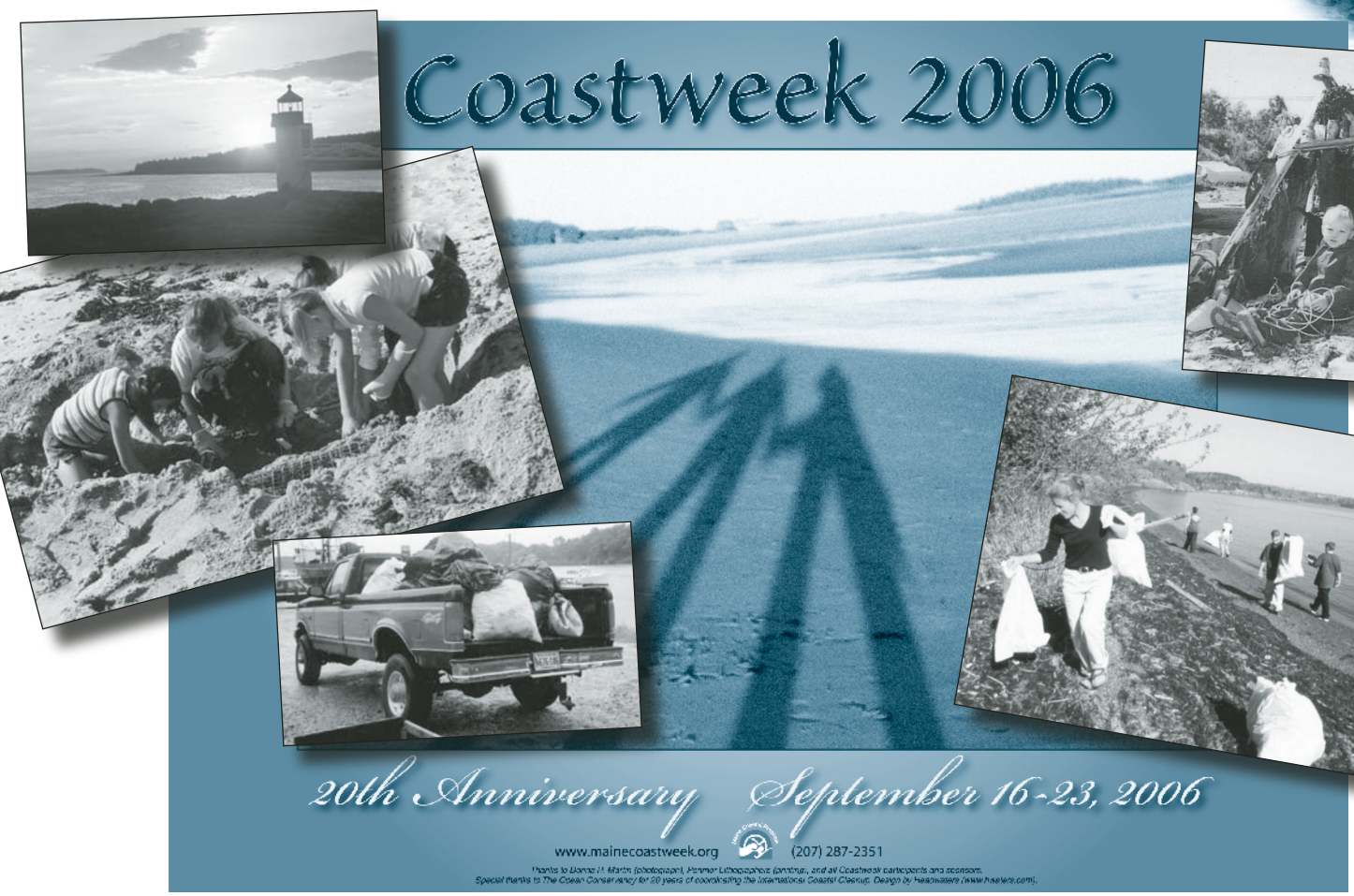
Maine Coastline

News from the Maine Coastal Program Fall 2006



Coastweek in Maine:
Celebrating 20 Memorable Years

Maine was among the first states in the nation to sponsor Coastweek, a community-based celebration of our cultural, historic, ecological and economic links to the sea. Coastweek is founded on grassroots effort—with school classes, scout troops, land trusts, Audubon chapters, conservation commissions, historical societies and other community groups organizing diverse local events. "There's no limit to the ways we can express and celebrate our links to the sea," notes Maine Coastal Program Director Kathleen Leyden. "Communities can sponsor art contests, beach cleanups, boat tours and marine cuisine tastings…the possibilities are endless."

Each year, the calendar of events for Coastweek varies depending on what local groups offer. The Maine Coastal Program compiles a calendar of events for the week—helping to publicize activities for local event sponsors. These calendars are distributed to media and organizations statewide, and are posted on the Coastal Program's web site www.mainecoastalprogram.org.

The Coastal Cleanup is a keystone of Maine's Coastweek activities, drawing more than 2,000 volunteers out to collect and record debris along the state's shorelines. "The annual Coastal Cleanup is Maine's largest volunteer event," notes Theresa Torrent-Ellis, Cleanup Coordinator for the Maine Coastal Program. "Many people enjoy spending time giving back to a setting that has provided them countless hours of pleasure. The Cleanup offers a wonderful chance to get debris out of the marine environment and to simultaneously educate people about the importance of keeping our bays and rivers clean." (For more information on findings from past cleanups, see pages 4 and 5.)

This year's Cleanup, during the 20th Anniversary of Coastweek, engaged roughly 3,000 volunteers at 69 sites along the length of Maine's coast. "This may be our largest Cleanup ever," notes Theresa Torrent-Ellis. "With each passing year, the commitment to coastal stewardship seems to grow stronger."

Director's Column

Maine Coastal Program staff conducted a cleanup on Eagle Island in Casco Bay as part of this year's Coastweek celebration.

Over the last 20 years, Maine has developed a national reputation for effective citizen stewardship. First with Coastweek, and later with various volunteer monitoring programs, Maine established itself as a leader in "citizen science"—hands-on activities that benefit the coast, provide learning opportunities, and contribute to our understanding of coastal ecosystems. In the early years, there were many skeptics of citizen science who considered volunteer programs too time-intensive. Thankfully, there were a few strong believers who persuaded others to adopt this approach. Today, hundreds of Maine residents routinely work cleaning and restoring beaches, charting shore erosion rates, conducting pollution source surveys, testing water quality, and checking for the presence of toxic phytoplankton.

People volunteer in Maine's coastal stewardship programs for many reasons: to learn more about the environment; to care for a particular place they love; to meet interesting people; and to enjoy time outdoors. When I was a newcomer to Maine, I helped with the local Coastal Cleanup as a way to meet others who shared my affinity for beaches. That in turn led to monitoring erosion at a favorite state park (when I learned that this important information was not yet being collected).

Coastweek and the Coastal Cleanup have become an annual rite for many Maine citizens, particularly students and teachers. When cleaning up local habitats and gathering valuable data on marine debris, young people experience the rewards of both citizen science and community service. Many of them have gone on to become committed coastal stewards, treating every week as Coastweek.

If you are already involved in citizen stewardship, hats off to you… we hope that you continue. If you are not, please know that whatever your motivation, skill level or availability, there is some activity that you can do to protect and improve Maine's coast. To learn about volunteer opportunities, please visit http://www.umaine.edu/umext/ssteward/. Consider joining in some coastal stewardship efforts. You'll have fun, do something useful, learn something new and perhaps even meet a friend!

Kathleen Leyden, Maine Coastal Program Director

Maine Coastline

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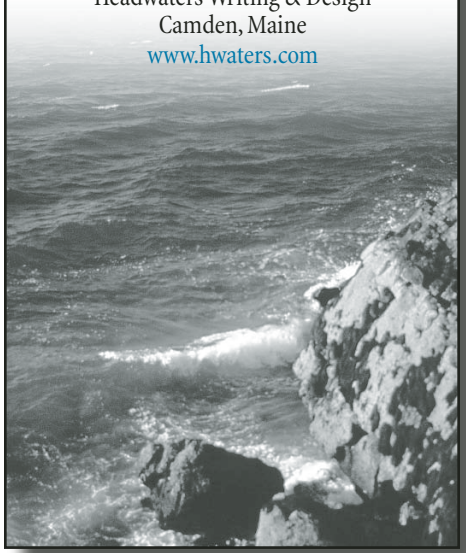


Maine Stewards Program: A Model of Successful Citizen Engagement

For more than a decade, the Maine Coastal Program has coordinated a program that inspires volunteers to become active and engaged coastal stewards. The Maine Stewards Program encourages residents to learn about the natural and cultural history of their region, and to take an active part in shaping its future. Residents come to the program from a wide range of backgrounds—including teachers, journalists, craftspeople, and business owners. Each Steward benefits from a comprehensive 65-hour course that covers geological and maritime history, marine ecosystems, wildlife conservation, water quality, marine debris, fisheries, stewardship, and interpretive skills. Numerous field trips offer Stewards a chance to get their hands and feet wet.

Stewards commit to perform community service that benefits their coastal region and watershed—creating their own projects or supporting ongoing programs involving water-quality monitoring, habitat surveys, lobster monitoring, marine history or coastal land stewardship. The Program requires a commitment of 30 hours, but many stewards dedicate hundreds of volunteer hours. "Rarely do the Stewards quit after the recommended 30 hours," observes John Arrison, a librarian at the Penobscot Marine Museum who has worked with at least ten Stewards over the past decade. "Some of the dedicated and energetic Stewards here have continued volunteering for eight or nine years."

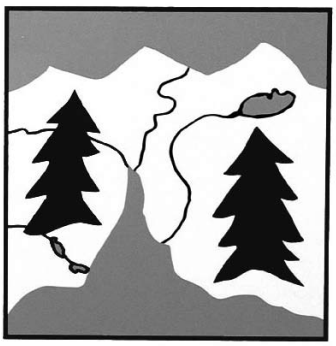
More than 150 people have gone through the Penobscot Bay Stewards Program since it began 11 years ago, contributing 5,000-plus hours to their communities. The Midcoast Stewards Program, established five years ago, has 92 graduates who have contributed at least 2,760 hours to regional coastal stewardship. "Having these engaged and educated members of the community share their knowledge with others has been a tremendous boon for the midcoast," notes Theresa Torrent-Ellis, who coordinates the Stewards Programs for the Maine Coastal Program. "We may launch additional Stewards programs in other parts of the coast because this model works so well."

Belfast Bay Watershed Coalition

Through the collaborative efforts of Penobscot Bay Stewards alumni, Belfast Bay now has a community group dedicated to appreciating and understanding its watershed. Stewards in the Class of 2000 launched this effort as their volunteer project, founding a group focused initially on the primary river entering the Bay—the Passagassawaukeag. Their focus later expanded to include all four watersheds affecting Belfast Bay.

As more people joined their effort, the partnership with the Stewards Program grew. Several volunteers with the fledgling Belfast Bay Watershed Coalition joined subsequent Stewards classes, and recruited additional volunteers from those classes. "The Stewards class was the BEST course," exclaims Cloe Chunn, the Coalition's Vice President. "It was well-planned and arranged and so inspiring!"

The Coalition now offers an impressive array of educational programs and field trips throughout the school year, including monthly talks at the Belfast Free Library as well as canoe treks, naturalist-led hikes and cross-country ski excursions. Coalition volunteers help out in the schools, and last May they hosted a daylong bird festival with talks, demonstrations and bird walks. "We're seeing more and more people attend our programs," notes Chunn. "A sense of our place and its importance seems to be gaining local momentum."



The Belfast Bay Watershed Coalition has posted signs marking the watershed boundaries along area roadways.

Marine Debris along Maine's Shores:

No matter where you walk along the length of Maine's 5,300-mile coastline, you're likely to encounter random bits of marine debris. If you've ever wondered where this ubiquitous flotsam and jetsam comes from, you are not alone. Researchers and volunteers have been working for two decades to gain a better understanding of the sources of marine debris—not just in Maine—but around the world. The 2,000-plus volunteers who turn out each fall to collect and record debris in Maine are part of a global effort that in 2005 involved 450,000 individuals collecting 8.2 million pounds of debris from 18,000 miles of shoreline.

The Ocean Conservancy (formerly the Center for Marine Conservation) provides data sheets on which volunteers in the International Coastal Cleanup record every item of trash collected. The resulting data provide insights into the types and sources of marine debris—helping with efforts to educate coastal users and prevent further pollution.

"In Maine, more than half the debris collected typically involves three items: cigarette butts (which in 2004 represented more than a quarter of the 55,700 items collected), food wrappers and rope."

In Maine, more than half the debris collected typically involves three items: cigarette butts (which in 2004 represented more than a quarter of the 55,700 items collected), food wrappers and rope. Most of the debris (ranging from 38-42 percent depending on the year) comes from land-based recreational activities and runoff from streets and storm drains. Another third (32-38 percent depending on the year) is smoking- related while roughly one-fifth comes from offshore and ocean-based activities (such as fishing boats). The percentages vary some along the length of Maine's coast, with land-based and recreational sources greater along the southern coast and midcoast while more gear from working boats is found at sites downeast.

Over the course of the past two decades, stronger laws have been passed to curb ocean dumping. All discharge of garbage is now prohibited in rivers, bays and up to 3 miles offshore. To make it easier for boaters to dispose of trash responsibly, there now are more receptacles at boating facilities. "Maine's Clean Marinas Program is helping to provide people with more shoreside disposal facilities," says Theresa Torrent-Ellis, who coordinates the annual cleanup for the Maine Coastal Program.

There is also a new Marine Debris Prevention and Removal Program at the National Oceanic and Atmospheric Administration, which is funding two grant programs aimed at reducing marine debris and fostering citizen involvement in coastal restoration efforts. More information on these grant opportunities can be found online at http://marinedebris.noaa.gov/funding/welcome.html.

While data from the 2006 International Coastal Cleanup are not yet fully analyzed, Theresa Torrent-Ellis anticipates that the numbers will be comparable to those recorded in recent years. "The consistent findings help us to identify key sources of debris," Torrent-Ellis says, "and work with both recreational and commercial interests to stop marine pollution at its source."

Maine's Coastal Cleanup Totals

	Number of Volunteers	Pounds Collected	Miles of Shoreline
1988	1,410	15,200	114
2000	2,303	38,502	267
2005	2,670	16,433	112

Top Ten Debris Items 2005

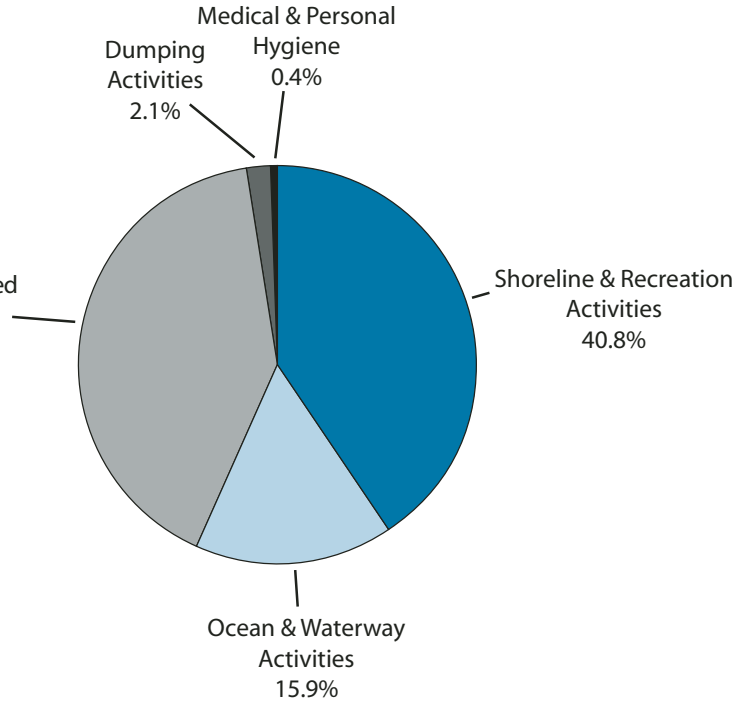
Debris Items	Amount	Percent of Total
1. Cigarettes	18,638	37.0%
2. Food Wrappers	5,536	11.0%
3. Glass Beverage Bottles	2,760	5.5%
4. Rope	2,724	5.4%
5. Caps And Lids	2,367	4.7%
6. Plastic Beverage Bottles	1,967	3.9%
7. Cups, Plates And Utensils	1,947	3.9%
8. Beverage Cans	1,513	3.0%
9. Buoys And Floats	1,403	2.8%
10. Bags	1,392	2.8%
Totals:	**40,247**	**80.0%**

data source:
Ocean Conservancy

Two Decades of Data

USF&WS

ources of Debris in Maine



Marine Debris Threatens Wildlife and Boaters

A look through past reports on Maine's annual Coastal Cleanup reveals that marine debris is far more than an eyesore. Cleanup volunteers routinely find entangled birds, mammals, turtles and fish, and note poignant descriptions on their data sheets: "leatherback turtle with garbage bag caught in throat; bird with plastic six-pack ring around its neck; bird with head caught in a plastic milk jug; gull with ingested fish hook." Cleanup Coordinator Theresa Torrent-Ellis explains that much of the trash found along Maine shores poses particular hazards for wildlife. "We find a lot of small plastic pieces, plastic bags and balloons, as well as discarded or lost fishing line, nets and gear. Some animals and birds try to ingest the smaller plastic bits and bags, mistaking them for food, while others get entangled in larger lines, ropes and netting." Debris also poses a navigational hazard for boaters, fouling props and clogging water intakes.

To minimize the risk that marine debris poses, dispose of your trash responsibly—taking care to ensure that items don't blow into the water. Avoid buying six-pack containers with plastic rings, or remove the packaging before going to the shore. While these "rings" are designed to degrade with exposure to sunlight, they still leave many small plastic fragments in the marine environment (which pose an ingestion hazard, rather than an entanglement hazard).

Our Changing Coast

On a sunny morning in mid-April, more than 300 interested citizens and professionals gathered in Rockport to learn about coastal trends and issues. The Maine Coastal Waters Conference opened with a keynote session that examined the coast through three different lenses: biological oceanography, demographic changes (and land use pressures), and management challenges.

Dr. David Townsend began the session describing how key features of the Gulf of Maine influence its biological productivity. The Gulf's semi-enclosed shape, with limited access to the open North Atlantic Ocean (through the Northeast Channel), strongly influences water circulation and mixing patterns. Strong tidal mixing occurs (particularly in the northern reaches of the Gulf), fueled by the inflow of both warm Gulf Stream waters and the colder Labrador current. More of that cold freshwater may enter the Gulf with the Greenland ice sheet melting, Townsend acknowledged when asked about the potential effects of global warming. "Global warming will make a more variable environment," Townsend predicted, "with greater oscillations in ocean patterns and greater storm activity."

Many rural residents moved to urban areas as farming declined, but population spread back out into the countryside near urban centers as growth sprawled in bedroom communities. Growing numbers of people as well are moving from larger metropolitan areas to smaller cities that have strong knowledge-based economies.

Evan Richert, who directs the Gulf of Maine Census on Marine Life, then spoke about concurrent shifts in population that have been affecting coastal Maine over the last century. Many rural residents moved to urban areas as farming declined, but population spread back out into the countryside near urban centers as growth sprawled in bedroom communities. Growing numbers of people as well are moving from larger metropolitan areas to smaller cities that have strong knowledge-based economies (such as the coastal Maine towns that lure retirees). "By 2020," Richert predicted, "the entire coast from Kittery to Penobscot Bay will take on the characteristics of suburban landscapes." Richert holds little hope that current approaches to land use will curb this trend. There is not sufficient funding to pursue aggressive land protection, he feels, and while many towns have completed comprehensive plans, "most town ordinances [still] mandate sprawl." The ideal would be to concentrate development in existing towns and cities and preserve the rural countryside, he noted, "but we can't get there politically."

Maine's Commissioner of Marine Resources, George LaPointe, spoke about how to manage Maine's coastal waters in ways that account for the ecological and demographic changes underway. He noted how many of Maine's "current" coastal issues (such as pollution, anadromous fish, overharvesting, and invasive species) have been debated for more than a century. Today's management challenges, though, are exacerbated by a host of newer concerns (such as global climate change, habitat alteration, runoff pollution, aquaculture and coastal development). LaPointe outlined some specific challenges facing fisheries management, and the quest to attain both "predictability and flexibility" through more coordinated approaches to management.

The plenary session provided no easy answers, but offered conference participants a valuable context for the afternoon's working sessions—which looked at ways to tackle some of the specific management challenges that lie ahead. Participants were enthusiastic about the day's discussions, and organizers hope to organize a follow-up conference in the future.

Headwaters/Maine SPO

Coastal development was a major topic of discussion during the Maine Coastal Waters Conference.

Fostering Greater Ocean Literacy

Americans enjoy their visits to the beach and their lobster dinners, but when it comes to understanding the ocean ecosystem and their impacts on it—they display an alarming lack of basic knowledge (see sidebar). Many news sources provide snippets of information about marine concerns, but all levels of public education in this country lack a comprehensive approach to marine education. "Individuals need to understand the importance of the ocean to their lives and realize how their individual actions affect the marine environment," reported the recent U.S. Commission on Ocean Policy, while acknowledging that this remains a "Herculean task."

Environmental Literacy in America, a report published last year by the National Environmental Education and Training Foundation, concludes that "the average American adult, regardless of age, income or level of education, mostly fails to grasp essential aspects of environmental science, important cause/effect relationships, or even basic concepts such as runoff pollution… or water flow patterns." People gain much of their exposure to environmental topics through diverse media, without having attained a basic understanding of ecology and environmental issues in formal schooling. Few schools have integrated environmental education consistently into their curricula, and people have limited contact with most informal learning centers (such as aquaria and museums). According to the NEETF report, "most people accumulate a diverse and unconnected smattering of factoids, a few (sometimes incorrect) principles, numerous opinions, and very little real understanding. A persistent pattern of environmental ignorance [plays out] even among the most educated and influential members of society."

Addressing this lack of environmental and marine understanding will take a multi-faceted effort that relies on both formal and informal education. The most effective approaches, many educators believe, involve hands-on experiences, field science and place-based learning that create a sense of stewardship, stronger problem-solving skills and a better systemic understanding of complex ecosystems. The NEETF report concludes that "understanding of causal connection is the single biggest problem in the environmental knowledge gap."

The Maine Coastal Program is looking at ways to incorporate basic ocean concepts and foster greater ocean literacy in its Stewards courses (see page 3) and other outreach efforts.

Surveys Reveal Widespread Marine Illiteracy

- *Nearly one-sixth of the American populace thinks the ocean is a source of fresh water.*
- *In one survey, 35 percent of respondents couldn't venture a guess as to the definition of "watershed."*
- *A Roper survey found that only 16 percent of respondents correctly identified vehicle owners as the primary source of oil in rivers, lakes and bays (from storm drain dumping and runoff pollution).*
- *In a 1999 survey done for The Ocean Project, 43 percent of respondents mistakenly concluded that "what I do in my lifetime doesn't impact ocean health much at all."*
- *Three-fourths of survey respondents incorrectly stated that forests generate more oxygen than oceans (in fact 70 percent of the world's oxygen supply comes from oceans).*

[Sources: NEETF report (2005), "Environmental Literacy in America" by Kevin Coyle at www.NEETF.org; "Communicating about Oceans: Results of a National Survey" (October 1999) for The Ocean Project (www.theoceanproject.org).]

Headwaters/Maine SPO

Maine Working Waterfront Access Pilot Program

The $12 million Land for Maine's Future bond that voters approved last November included $2 million dedicated to working waterfront projects that support commercial fisheries businesses. These funds will be distributed through the Maine Working Waterfront Access Pilot Program, which anticipates funding up to 50 percent of acquisition costs for a few exemplary projects over the next two years.

The Pilot Program, being administered by the Department of Marine Resources in conjunction with the Land for Maine's Future Board, seeks to protect waterfront land with the facilities, capacity and services needed to support commercial fisheries businesses. Projects must provide permanent and secure access which will be accomplished with the use of a working waterfront covenant, newly created by the Maine Legislature.

In considering proposals, a review panel appointed by the Commissioner of DMR will assess whether potential projects have economic significance to the commercial fisheries industry; whether there are alternative working waterfront properties nearby; what degree of community support the project has; how much the site is threatened by conversion to incompatible uses; and how well the property could serve commercial fisheries businesses.

Application materials are now available. For more information contact Coastal Enterprises at 772-5356 or www.wwapp.org.

NOAA Approves Maine Coastal Plan

Every five years, states in the federal Coastal Zone Management Program are required to assess their progress and develop new strategies to enhance their programs. This assessment and strategy covers nine national priority areas: Public Access, Coastal Hazards, Ocean Resources, Wetlands, Cumulative and Secondary Impacts, Marine Debris, Energy and Government Facility Siting, Special Area Management, and Aquaculture.

Following a public comment period in May, the Maine Coastal Program revised and submitted its "Maine Coastal Plan, Final Assessment and Strategy" to the National Oceanic and Atmospheric Administration for review. NOAA's recent approval of the plan enables MCP to begin work on the initiatives outlined in this planning document. To view the Maine Coastal Plan please go to: http://www.maine.gov/spo/mcp/downloads/309_reports/final_309A&S.pdf

If you have questions about the Maine Coastal Plan, please contact Elizabeth Stephenson at Elizabeth.Stephenson@maine.gov or 207-287-4120.

Twelve Habitat Restoration Grants Awarded

The Gulf of Maine Council and NOAA Habitat Restoration Partnership recently awarded $386,483 dollars for 12 habitat restoration projects around the Gulf (including two in Maine—on Drakes Island in Wells and on Winnegance Lake in West Bath). The Partnership funds salt marsh restoration, migratory fish passage and estuarine restoration efforts. Letters of Intent for the next funding round are requested by October 1, 2006, with final proposals due in mid-November. For more information, visit http://restoration.gulfofmaine.org or contact Jon Kachmar at jon.kachmar@maine.gov or 207-287-1913.

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The Maine Coastal Program represents a partnership of local, regional and state agencies that work collaboratively to enhance management of the state's diverse coastal resources. Housed at the State Planning Office, Coastal Program staff work extensively with governmental agencies and community organizations such as local land trusts and regional economic development groups. Planning and outreach focus on such issues as watershed management, development issues, fisheries management, water quality monitoring, marine education, citizen stewardship, coastal hazards, marine infrastructure and habitat protection.

For more information on the Maine Coastal Program, please visit our website at www.mainecoastalprogram.org.

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